

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
AUSTIN DIVISION**

VIA VADIS, LLC and	§	
	§	
AC TECHNOLOGIES, S.A.,	§	
	§	Case No. 1:14-cv-813-LY
Plaintiffs,	§	
	§	JURY TRIAL DEMAND
v.	§	
	§	
AMAZON.COM, INC.,	§	
	§	
Defendant.	§	

SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT

Plaintiffs Via Vadis, LLC (“Via Vadis”) and AC Technologies, S.A. (“AC Tech,” collectively, “Plaintiffs”), by and through their attorneys, respectfully file this Second Amended Complaint for patent infringement against Defendant Amazon.com, Inc. (“Amazon”) and in support thereof state:

I. INTRODUCTION

1. This is a claim for patent infringement arising under the patent laws of the United States, Title 35 of the United States Code. Plaintiff AC Tech is the owner and Plaintiff Via Vadis is the exclusive U.S. licensee, respectively, of the Asserted Patent (defined below), which relate to an improved data access and management system. In particular, systems operating pursuant to the Asserted Patent store data in a redundant manner in multiple data storage devices depending on pre-specified parameters of the measured data transmission between those data storage devices and computer units. These computer units further access one or more of these data storage devices to access and use such data as a function of those determined pre-specified parameters. Further, the data storage devices process the stored data independently from any access or direction of the

computer units. These computer units shift redundantly stored data. In this manner, data can be processed in a decentralized manner whereby increased data integrity and an increased fault tolerance, as well as relief of individual system components, is achieved. Ultimately the invention allows quicker and more reliable access to data stored and distributed in network computer structures.

II. THE PARTIES

2. Plaintiff AC Tech is a Luxembourg company with its principal place of business at MAISON 2, Leithum, 9910 Luxembourg.

3. Plaintiff Via Vadis is a limited liability company organized under the laws of the Commonwealth of Virginia with its principal place of business at MAISON 2, Leithum, 9910 Luxembourg.

4. Defendant Amazon is a Delaware corporation with its principal place of business at 410 Terry Avenue North, Seattle, Washington 98109. Amazon can be served with process by serving its registered agent for service of process in Washington, Corporation Service Company, 300 Deschutes Way SW, Suite 304, Tumwater, Washington 98501.

III. JURISDICTION AND VENUE

5. This action arises under the patent laws of the United States, Title 35 of the United States Code, and in particular 35 U.S.C. §§ 271, 283, 284, 285. Accordingly, this Court has exclusive jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

6. This Court has personal jurisdiction over the Defendant as it, directly or through intermediaries, has conducted and does conduct business in this forum, such business including but not limited to: (i) at least a portion of the infringement alleged herein; (ii) purposely and voluntarily offering for sale products or services, including without limitation Amazon's EC2 and

S3 web services through Amazon Web Services, arising from or incorporating the claimed inventions in this forum; and/or (iii) regularly doing or soliciting business, engaging in other persistent course of conduct, including without limitation the operation of a fulfillment center and the hiring of personnel operating within the district or deriving substantial revenue from the offering and sale of goods and/or services to individuals in this forum.

7. Venue is proper in this Court under 28 U.S.C. §§ 1391 and 1400(b).

IV. BACKGROUND

8. AC Tech is the owner, while Via Vadis is the exclusive licensee in the United States, of all rights, title, and interests in and under United States Patent No. RE40,521 (“the ‘521 patent”), which is entitled “Data Access and Management System as Well as a Method for Data Access and Data Management for a Computer System” (referred to herein as the “Asserted Patent”). A true and correct copy of the ‘521 patent is attached hereto as *Exhibit A*.

9. The ‘521 patent was duly and legally issued on September 23, 2011 with Thomas Binzinger identified as the named inventor. The ‘521 patent is a reissue of U.S. Patent No. 7,000,084 (“the ‘084 patent”) issued February 14, 2006. The application giving rise to the ‘084 patent, United States Patent Application No. 09/903,431, filed July 10, 2001, is a continuation of Application No. PCT/EP2000/000141 filed on January 11, 2000. Application No. PCT/EP2000/000141 claims priority to German Patent Application No. 199 00 636 filed on January 11, 1999.

10. The Asserted Patent was assigned by Binzinger to AC Tech on March 21, 2005. AC Tech, pursuant to a license dated February 11, 2011, then exclusively licensed the Asserted Patent to Via Vadis.

11. On August 24, 2015, Defendant Amazon filed an *inter partes* review petition challenging validity of the '521 Patent. On March 6, 2017, the Patent Trial and Appeal Board ("PTAB") issued its Final Written Decision, finding that Amazon had not shown by preponderance of evidence that claims 30, 31, 33, and 40-46 of the '521 Patent (the "Challenged Claims") were unpatentable over the asserted prior art.

12. 35 U.S.C. § 315(e)(2) provides "The petitioner in an inter partes review of a claim in a patent under this chapter that results in a final written decision under section 318(a), or the real party in interest or privy of the petitioner, may not assert either in a civil action arising in whole or in part under section 1338 of title 28 or in a proceeding before the International Trade Commission under section 337 of the Tariff Act of 1930 that the claim is invalid on any ground that the petitioner raised or reasonably could have raised during that inter partes review."

13. As a consequence, Amazon is estopped from asserting that any of the Challenged Claims is invalid on any ground that it raised or reasonably could have raised during *inter partes* review.

14. BitTorrent is a peer-to-peer file distribution protocol that allows multiple networked users to simultaneously upload and download segments or pieces of the same file to and from each other. BitTorrent allows multiple downloaders to each store a copy of a file and reupload the file to subsequent downloaders, with each downloader potentially receiving pieces of the complete file from multiple uploaders. The process of downloading and reuploading is regulated based on measured data transmission performance to ensure that each user gets a consistent download rate.

15. The individual computers using the BitTorrent protocol act as both uploaders (seeders) and downloaders, sometimes simultaneously, relative to the other computers using BitTorrent to distribute data, i.e., the other computers in the same torrent.

16. As part of Amazon's implementation of the BitTorrent Protocol, data is copied from one user's computer to another's before becoming unavailable at certain locations from which it was copied, as a function of the parameters of data transmission between users. Thus, the BitTorrent Protocol is a data access and management system that implements systems and methods relating to the functions described above. As discussed herein, Amazon's implementation of, or support for, the BitTorrent Protocol refers without limitation to any implementation of the BitTorrent Protocol or any peer-to-peer protocol used to distribute data with the features described herein, whether a proprietary implementation or using the publicly available source code. The publicly available BitTorrent source code and specification cited herein is cited as indicating the functionality of such implementation.

V. DEFENDANT'S INFRINGING ACTS

17. Defendant Amazon manufactures, provides, sells, offers for sale and/or distributes software-as-a-service performing the claim methods of the '521 Patent. The accused Amazon systems and methods include without limitation web services and other products and services that use or are configured to use peer to peer file distribution protocols including, but not limited to, the BitTorrent protocol and relate to the functions described in paragraphs no. 1 and 14-16 above, including without limitation Amazon's Web Services, such Amazon Web Services and its Amazon S3 service. Upon information and belief, among other infringements, this accused software-as-service infringes the Asserted Patent by supporting the BitTorrent protocol, or other infringing peer to peer file distribution protocol, to transfer files and other data between electronic devices,

such as computers. *See e.g.*, <http://docs.aws.amazon.com/AmazonS3/latest/dev/S3Torrent.html> (“Amazon S3 supports the BitTorrent protocol so that developers can save costs when distributing content at high scale.”). Additionally, Amazon provides related services, specifications, and instructions for installation and operation of such systems to its customers or has done so in the past.

18. For example, Amazon’s S3 software has performed and continues to perform steps of the claimed method in Claim 30 of the ’521 Patent, and the performance of networked systems connected to Amazon S3 is attributable to Amazon such that the infringement is attributable to Amazon as a direct infringer under 35 U.S.C. Section 271(a). Indeed, Amazon conditions its customers’ and users’ respective receipts of the benefits of certain cost savings “when distributing at a high scale” on its customers’ and users’ using the BitTorrent protocol in connection with S3 and performing these steps. Amazon also conditions its customers’ and users’ participation in distributing data together with S3 via the BitTorrent protocol on the customers and users implementing the BitTorrent protocol and performing any step not performed by Amazon itself.

19. On information and belief, the performance of any method steps by networked systems connected to Amazon S3 are also attributable to Amazon because Amazon and participating parties are in a joint enterprise to distribute data using BitTorrent using Amazon Web Services and S3. Amazon and its customers have agreed to use BitTorrent to distribute data, their agreement has the purpose of using and supporting the use of BitTorrent to distribute data across their and their users’ computer systems, a community of pecuniary interest in BitTorrent’s use, in which each contribute computing resources to the distribution network, and an equal right to direct the continued use of BitTorrent in data distribution.

20. On information and belief, when data is distributed by Amazon's S3 service using BitTorrent, the data distributed is stored in multiple devices, with each device having a least one memory cell storing at least one piece of the data, and other locations within the network of computers involved in data distribution where that same data is stored, such that the information in each memory cell is copied the same number of times. That data can be stored at one or more locations operated by Amazon, including without limitation the BitTorrent origin server it operates. It can also be stored in at least one device at Amazon, a customer's device, or the device operating a BitTorrent client.

21. Computers distributing data using peer-to-peer software, such as BitTorrent, together with Amazon S3 software comprise multiple computers, each having processors and memory. At various times during the torrent, one or more nodes may disconnect, remove themselves from the torrent, or otherwise fail, thereby removing themselves and their associated data from availability to the torrent.

22. On information and belief, computers executing the BitTorrent protocol to distribute data together with Amazon S3 access the data stored by other computers doing the same by requesting the data for download via a data transmission means. *See e.g.*, The BitTorrent Protocol Specification 2008 (cited herein as "Spec2008") ("To start downloading, a user does the following: 1. Install BitTorrent (or have done so already). ... 4. Select where to save the file locally, or select a partial download to resume. 5. Wait for download to complete."); *See also, e.g.*, BitTorrent 5.3 Source Code, GPL version, cited as ("CohenGPL5.3") at Download.py lines 197-233. This code shows a downloader receiving and storing a duplicate piece. The data transmission means can include, but are not necessarily limited to, networks using data transmission protocols, such as HTTP, TCP, or uTP (micro transport protocol). *See, e.g.*, Spec2008 ("BitTorrent is a

protocol for distributing files. It identifies content by URL and is designed to integrate seamlessly with the web. Its advantage over plain HTTP is ...”). *See also, e.g.*, Spec2008 (“BitTorrent's peer protocol operates over TCP or uTP.”).

23. On information and belief, computers executing the BitTorrent protocol to distribute data together with Amazon S3 determine and include prespecified parameters of data transmission between the computers storing pieces of the data being distributed, including Amazon’s computers, and the computers requesting access to stored pieces. Such parameters could include, but are not necessarily limited to, the maximum and minimum number of BitTorrent nodes that can be uploading pieces of a file, the delay in time required before a newly choked (or unchoked) BitTorrent node can be changed to unchoked (or choked), the length of a piece of the file, the SHA1 hash for a piece of the file, the transmission duration, fault rate, and/or duration of data processing and upload rates. *See, e.g.*, CohenGPL5.3 at Choker.py lines 194-209; CohenGPL5.3 at Choker.py lines 103 and 123-170. Spec2008 (“Connections contain two bits of state on either end: choked or not, and interested or not. Choking is a notification that no data will be sent until unchoking happens. ... Data transfer takes place whenever one side is interested and the other side is not choking.”); Spec2008 (“info dictionary: ... piece length maps to the number of bytes in each piece the file is split into. For the purposes of transfer, files are split into fixed-size pieces which are all the same length except for possibly the last one which may be truncated.”); Spec2008 (“info dictionary: ... pieces maps to a string whose length is a multiple of 20. It is to be subdivided into strings of length 20, each of which is the SHA1 hash of the piece at the corresponding index.”); *CohenGPL5.3* at TorrentButler.py lines 91-97; *CohenGPL5.3* at Download.py lines 36-55.

24. On information and belief, computers executing the BitTorrent protocol to distribute data together with Amazon S3 also determine which data storage unit to access in which to redundantly store the piece as a function of the determined (measured) prespecified data transmission performance parameters. *Spec2008* (“Choking is done for several reasons. TCP congestion control behaves very poorly when sending over many connections at once. Also, choking lets each peer use a tit-for-tat-ish algorithm to ensure that they get a consistent download rate... Peers which have a better upload rate but aren't interested get unchoked and if they become interested the worst uploader gets choked. If a downloader has a complete file, it uses its upload rate rather than its download rate to decide who to unchoke.”). *Cohen2001* at Throttler.py lines 22-47; *CohenGPL5.3* lines 54-94.

25. And, on information and belief, the access to the data of the computers executing the BitTorrent protocol to distribute data together with Amazon S3 is affected as a result of the measured prespecified data transmission parameter because data can only be accessed where it is stored. These computers’ access to the data is further affected through BitTorrent choking, in which Amazon’s and other computers engaged during distribution. A BitTorrent node can also “choke” or block others from accessing data as a function of the Upload rate used by BitTorrent nodes. *Cohen2001* at Throttler.py lines 22-47; *CohenGPL5.3* lines 54-94. A BitTorrent node operated by Amazon S3 or a computer distributing data together with S3 can further determine which peers will get access depending on the download rate (if the node is downloading) or upload rate of the peer (if the node is seeding). *Cohen2001* at Throttler.py lines 22-47; *CohenGPL5.3* lines 54-94.

26. The computers executing the BitTorrent protocol to distribute data together with Amazon S3 detect the prespecified parameters for data transmission between the computers storing

the pieces of the file to be distributed. These prespecified parameters system include, but are not necessarily limited to, the maximum and minimum number of BitTorrent nodes that can be uploading pieces of a file, the delay in time required before a newly choked (or unchoked) BitTorrent node can be changed to unchoked (or choked), the length of a piece of the file, the SHA1 hash for a piece of the file, the transmission duration, fault rate, duration of data processing and upload rates. *See, e.g.*, CohenGPL5.3 at Choker.py lines 194-209; CohenGPL5.3 at Choker.py lines 103 and 123-170. Spec2008 (“Connections contain two bits of state on either end: choked or not, and interested or not. Choking is a notification that no data will be sent until unchoking happens. ... Data transfer takes place whenever one side is interested and the other side is not choking.”); Spec2008 (“info dictionary: ... piece length maps to the number of bytes in each piece the file is split into. For the purposes of transfer, files are split into fixed-size pieces which are all the same length except for possibly the last one which may be truncated.”); Spec2008 (“info dictionary: ... pieces maps to a string whose length is a multiple of 20. It is to be subdivided into strings of length 20, each of which is the SHA1 hash of the piece at the corresponding index.”); *CohenGPL5.3* at TorrentButler.py lines 91-97; *CohenGPL5.3* at Download.py lines 36-55. These parameters are calculated between the data storage means (*i.e.*, the computers storing the pieces of the data to be distributed).

27. The computers executing the BitTorrent protocol to distribute data together with Amazon S3 shift redundantly stored data independent of the access of the computer unit to the data as a function of the determined (measured) prespecified parameters of data transmission between the data storage means. This shifting occurs when a node fails by virtue of normal system operation or otherwise. ’521 Patent, 6:18-27; 6:38-46; 10:35-53. For example, data is made unavailable when an Amazon S3 computer chokes other computer units after the data is copied to

other nodes within the network distributing the data. *See, e.g., Spec2008* (“Connections contain two bits of state on either end: choked or not, and interested or not. Choking is a notification that no data will be sent until unchoking happens. ... Data transfer takes place whenever one side is interested and the other side is not choking.”). This choking occurs as a function of the measured determined prespecified parameters between the units storing the piece of the data, *e.g.* the transmission duration, fault rate, and/or duration of data processing and upload rates contribute to determine if a peer is already uploading at full capacity and therefore may choke other peers. *See e.g., CohenGPL5.3* at Choker.py lines 54-96.

28. A claim-by-claim, element-by-element table providing further explanation and evidence of Amazon’s infringement based on publicly-available information is set forth as ***Exhibit B***.

VI. COUNT ONE DIRECT AND INDIRECT INFRINGEMENT OF UNITED STATES PATENT NO. RE40,521

29. Plaintiffs incorporate the allegations of Paragraphs 1 through 28 set forth above as if fully set forth herein.

30. Plaintiffs have all substantial rights and interests in the ‘521 Patent, including all rights to recover for all past and future infringements thereof.

31. The ‘521 Patent is valid and enforceable.

32. On information and belief, Defendant Amazon, without permission of Plaintiffs, has been and is presently infringing the ‘521 patent, as infringement is defined by 35 U.S.C. § 271(a), including through making, using, selling, offering for sale and importing methods and articles infringing one or more claims of the ‘521 Patent. Defendant Amazon has thus directly infringed the ‘521 Patent pursuant to 35 U.S.C. § 271(a).

33. On information and belief, Defendant Amazon, without permission of Plaintiffs, has been and is presently indirectly infringing one or more claims of the '521 Patent, including claims 30, 31, 33, and 40-46, including actively inducing infringement under 35 U.S.C. § 271 either literally and/or under the doctrine of equivalents. Such inducements include without limitation, with specific intent to encourage the infringement, knowingly inducing customers to use infringing articles and methods that Defendant Amazon knew or should have known infringe one or more claims of the '521 Patent. Defendant Amazon received actual notice of the '521 Patent by no later than Plaintiffs' August 21, 2014 letter notifying Defendant Amazon of infringement.

34. On information and belief, Defendant Amazon, without authorization or license from Plaintiffs, has been and is presently indirectly infringing at least claims 30, 31, 33, and 40-46, of the '521 Patent, including contributory infringement of the '521 Patent under 35 U.S.C. § 271(c), either literally and/or under the doctrine of equivalents, by selling, offering for sale, and/or importing into the United States, the accused products. Amazon knows that the accused products (i) constitute a material part of the inventions claimed in the '521 Patent, including the code responsible for performing the infringement method; (ii) are especially made or adapted for use in infringing the '521 Patent; (iii) are not staple articles or commodities of commerce suitable for non-infringing use; and (iv) are components used for or in its software as a service to perform the asserted claims in an infringing manner.

35. On information and belief, Defendant Amazon has indirectly infringed the '521 Patent by, among other actions, providing infringing peer to peer protocol compatibility within their web services products and instructing users to operate and combine software using or configured to use infringing peer to peer software, and its customers do so. For example,

Defendant Amazon includes compatibility with and support for the infringing BitTorrent protocol that permits users to transfer files and other data with its S3 Amazon Web Services Products, and their users do so. Both the compatibility and instructions induce others to infringe.

36. As a result of Defendant Amazon's infringement of the '521 Patent, Plaintiffs have suffered monetary damages that are adequate to compensate them for the infringement under 35 U.S.C. § 284, but in no event less than a reasonable royalty.

VII. JURY DEMAND

37. Plaintiffs request a jury trial of all issues triable of right by a jury.

VIII. PRAYER FOR RELIEF

WHEREFOR, Plaintiffs respectfully request that the Court:

A. Adjudge that the Asserted Patent was duly and legally issued and that it is valid and enforceable;

B. Adjudge that the Defendant has directly or indirectly infringed on or more claims of the Asserted Patent, whether literally or under the doctrine of equivalents, as described herein;

C. Permanently enjoin Defendant, its agents, servants and employees and all those in privity with Defendant or in active concert with Defendant from engaging in acts of infringement of the Asserted Patent.

D. Award the Plaintiffs past and future damages, together with pre-judgment and post-judgment interest, as provided under 35 U.S.C. § 284, and increase such award by up to three times the amount found or assessed in accordance with 34 U.S.C. § 284;

E. Award Plaintiffs their costs, disbursements and attorneys' fees; and

F. Award Plaintiffs such further and additional relief as is deemed appropriate by this Court.

DATED: March 5, 2021

Respectfully submitted,

By: /s/ Andrew G. DiNovo

Andrew G. DiNovo

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CERTIFICATE OF SERVICE

I hereby certify that on March 5, 2021, I electronically filed the foregoing with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to all counsel of record.

/s/ Andrew G. DiNovo

Andrew G. DiNovo